Long before it declared bankruptcy, Enron was notorious among Wall Street analysts for its opaque accounting practices. Even the most sophisticated market watchers were unable to divine Enron’s profit position from its financial statements. But the 1990s were boom times for the energy trading industry. Many countries re-structured their former state-owned monopoly electricity, oil and natural gas industries, and Enron was an active and vocal participant in all of these newly formed markets. Even in the competitive business of energy trading, Enron was known for its aggressive behavior. If there was a profitable trading strategy available because of a poorly designed regulatory rule, Enron was often the first market participant to formulate this strategy and profitably exploit it. Enron was also not shy in publicizing its many apparent profit-making actions in these markets. As the high-profile company in an industry undergoing explosive growth with financial statements approved by independent auditors showing revenue growth consistent with the growth of the industry, Enron looked like a very healthy company in spite of its indecipherable balance sheet. These subjective measures of success could explain why Wall Street believed that Enron was a profitable company long after it actually was.

In hindsight, however, there were many warning signs that all was not right at Enron long before its stock price began its rapid decline. I will first describe these warning signs and then discuss what lessons the investing public should learn from this debacle and what investors can do to avoid a similar situation in the future.

Accounting is Not an Exact Science

Harvey Pitt, chairman of the Securities and Exchange Commission (SEC) said, "There is no true number in accounting, and if there were, auditors would be the last people to find it.” How a firm decides to depreciate its assets, book its accounts payable and accounts receivable, recognize investment expenditures, or realize capital gains and losses can dramatically
alter its accounting revenues, costs and profits. Currently, the goal of financial reporting appears to be to disclose as little information as possible that might be used against the firm in a shareholder lawsuit yet still comply with all legally mandated financial reporting requirements.

Enron's management clearly recognized the tremendous discretion that generally accepted accounting practices (GAAP) afforded them in managing reported revenues, costs and profits. For example, in the early 1990s Enron began to report its contract energy sales on a gross versus net basis to manage their revenues. Imagine what sorts of revenues Wall Street firms such as Salmon Smith Barney, J.P. Morgan might report their revenues. As long as investors understood this change in the definition of revenues and were informed of when it occurred, this change would not have impacted share values.

**Enron's Business Model Makes Creative Accounting Easier**

As former Chief Executive Officer Jeffrey Skilling described it, Enron pursued an "asset-light" business strategy. Enron's business plan was to not to concentrate on building or operating electricity generating facilities or exploring for or developing natural gas deposits. Instead, Enron would profit from its ability to understand and predict the actions of firms that produced and consumed electricity and natural gas. It would recognize and exploit arbitrage opportunities across energy markets, over time and location faster than other market participants. If Enron found any predictable behavior on the part of any market participant, it would take a financial position that allowed it to profit from this information.

Enron was a speculator in the purest sense of the word. It assumed business risk in the expectation of receiving financial gain. Key to the profitability of Enron's business model was its ability to understand how energy markets operated and the inter-relationships between these markets better and faster than its competitors. During the early stages of natural gas and electricity re-structuring in the United States (US), there were three reasons to expect that Enron's business model was extremely profitable. First, Enron was the industry leader in advocating energy industry re-structuring in the US. Second, it had significantly more worldwide experience in competitive electricity and natural gas markets than the firms that it competed against in US markets. Third, during the initial stages of any new financial markets there are many profitable trading opportunities that exist because of unrecognized arbitrage opportunities between the new market and pre-existing markets. This change in revenue reporting emphasizes the importance of giving investors a precise definition of every number reported on a company's balance sheet. As long as investors understood this change in the definition of revenues and were informed of when it occurred, this change would not have impacted share values.

All of these reasons for Enron's profitability are transient. As other market participants gained expertise, either by hiring away Enron employees or through experience in the market, the number of profitable arbitrage opportunities should fall and the total amount of arbitrage profits available should decline. A company with an asset-light business strategy competing in market with an increasing number of sophisticated traders will find future profits increasingly difficult to obtain without taking on significantly more risk. The desire of Enron's management to maintain initial revenue and profit growth rates despite the growing sophistication of its competitors created very strong incentives for its management to engage in many of the dubious accounting practices and risky business ventures that ultimately led to Enron's bankruptcy.

**Stock Buyer Beware**

One view of the Enron implosion is that it was the result of the failure of the accounting profession to disclose sufficient information on Enron's financial condition to the investing public. If Enron's accountants had disclosed the precise nature of the company's outside partnerships, then its stock price would have fallen much sooner. A fall in Enron's stock price early enough in the process would have allowed its management the time to take the corrective actions necessary to avoid bankruptcy. However, this scenario ignores the fundamental problem described above: accounting is very far from an exact science. Flexibility in accounting procedures, even if accounting standards were set by an independent government agency, can be used to describe more accurately a healthy firm's financial fitness or to disguise an unhealthy firm's financial decline. Because flexibility in accounting standards can also serve a beneficial role, it is impossible to eliminate completely the flexibility that allows firm's to disguise their true financial position. This is not to say that there should not be more federal oversight over the accounting standards setting process and that the SEC should not investigate all suspected violations of its financial reporting rules. However, all of these actions cannot solve the fundamental problem.

The only solution to the Enron problem is the old adage "let the buyer beware." Shareholders must exercise their responsibilities as owners of the firm to demand complete disclosure of all relevant information. Large pension funds managers such as the California Public Employees' Retirement System (CalPERS) have a history of shareholder activism. All shareholdere now have the ability to discipline the behavior of firms whose management does not adequately disclose. Institutional and private investors must demand better information, and withhold their investment dollar until they get it.

What is particularly surprising about the current lack of reliable financial information is it is exists despite rapidly declining costs of information disclosure. Rather than having to incur the large financial expense of printing and mailing annual reports or other documents disclosing financial information, all firms can post the relevant information, updated each day if needed, on their web-site at zero incremental cost.

When asked about why he didn't invest in dot-com companies, Warren Buffett responded, "I have an old-fashioned belief that I should only expect to make money in things I understand. And when I say understand, I mean understand what the economics of the business are likely to look like 10 years from now." If all investors followed Buffett's advice, companies that failed to provide sufficient information for investors to understand their financial position would find it very difficult to raise money from the investing public.

More companies are likely to follow Enron's downward trajectory because they did not fully disclose their financial health. Investors must demand complete financial disclosure using terms that clarify rather than cloud understanding of what the numbers mean. The costs to firms of disclosing information whenever it becomes available and the cost to investors of gathering and analyzing this information have never been lower. An investing public demanding continuous and complete financial reporting is the best way to minimize the risk of future disasters like the Enron's bankruptcy.
alter its accounting revenues, costs and profits. Currently, the goal of financial reporting appears to be to disclose as little information as possible that might be used against the firm in a shareholder lawsuit yet still comply with all legally mandated financial reporting requirements.

Enron’s management clearly recognized the tremendous discretion that generally accepted accounting practices (GAAP) afforded them in managing reported revenues, costs and profits. For example, in the early 1990s Enron began to report its contract energy sales on a gross revenue rather than net revenue basis. This means that if Enron sold a $1 million contract for electricity deliveries at pre-specified dates in the future, it would book the entire $1 million as revenue, rather than the difference between this revenue stream and the cost of purchasing the energy necessary to meet this contractual obligation as net revenue. Reporting contract energy sales on a gross versus net revenue basis would not alter Enron’s profits, because under either revenue realization scheme profits are total revenues less total costs. However, assuming that Enron earned zero net profit on this $1 million contract sale, the difference in reported revenues from gross versus net revenue reporting is enormous. No new accounting standards led to gross revenue accounting methods. Instead, this practice was introduced by Enron and then spread to other energy trading companies as a way to manage their revenue growth, perhaps in response to the enormous emphasis Wall Street analysts put on revenue growth as a way to gauge a company’s financial performance.

The Fortune 500 compiled by FORTUNE Magazine ranks the 500 largest companies by their revenues. Gross revenue reporting gives energy trading companies a much easier route into the Fortune 500 than would net revenue reporting, which is the method used by Wall Street investment banks to report their revenues. Imagine what sorts of revenues Wall Street firms such as Salomon Smith Barney, J.P. Morgan Chase and Morgan Stanley would be reporting if each time they made a share offering they booked the entire value of shares sold as revenues.

This change in revenue reporting emphasizes the importance of giving investors a precise definition of every number reported on a company’s balance sheet. As long as investors understood this change in the definition of revenues and were informed of when it occurred, this change would not have impacted share values.

**Enron’s Business Model Makes Creative Accounting Easier**

As former Chief Executive Officer Jeffrey Skilling described it, Enron pursued an "asset-light" business strategy. Enron’s business plan was not to concentrate on building or operating electricity generating facilities or exploring for or developing natural gas deposits. Instead, Enron would profit from its ability to understand and predict the actions of firms that produced and consumed electricity and natural gas. It would recognize and exploit arbitrage opportunities across energy markets, over time and location faster than other market participants. If Enron found any predictable behavior on the part of any market participant, it would take a financial position that allowed it to profit from this information.

Enron was a speculator in the purest sense of the word. It assumed business risk in the expectation of receiving financial gain. Key to the profitability of Enron’s business model was its ability to understand how energy markets operated and the inter-relationships between these markets better and faster than its competitors. During the early stages of natural gas and electricity re-structuring in the United States (US), there were three reasons to expect that Enron’s business model was extremely profitable. First, Enron was the industry leader in advocating energy industry re-structuring in the US. Second, it had significantly more worldwide experience in competitive electricity and natural gas markets than the firms that it competed against in US markets. Third, during the initial stages of any new financial markets there are many profitable trading opportunities that exist because of unrecognized arbitrage opportunities between the new market and pre-existing markets.

All of these reasons for Enron’s profitability are transient. As other market participants gained expertise, either by hiring away Enron employees or through experience in the market, the number of profitable arbitrage opportunities should fall and the total amount of arbitrage profits available should decline. A company with an asset-light business strategy competing in market with an increasing number of sophisticated traders will find future profits increasingly difficult to obtain without taking on significantly more risk. The desire of Enron’s management to maintain initial revenue and profit growth rates despite the growing sophistication of its competitors created very strong incentives for its management to engage in many of the dubious accounting practices and risky business ventures that ultimately led to Enron’s bankruptcy.

**Stock Buyer Beware**

One view of the Enron implosion is that it was the result of the failure of the accounting profession to disclose sufficient information on Enron’s financial condition to the investing public. If Enron’s accountants had disclosed the precise nature of the company’s outside partnerships, then its stock price would have fallen much sooner. A fall in Enron’s stock price early enough in the process would have allowed its management the time to take the corrective actions necessary to avoid bankruptcy. However, this scenario ignores the fundamental problem described above: accounting is very far from an exact science. Flexibility in accounting procedures, even if accounting standards were set by an independent government agency, can be used to describe more accurately a healthy firm’s financial fitness or to disguise an unhealthy firm’s financial decline. Because flexibility in accounting standards also can serve a beneficial role, it is impossible to eliminate completely the flexibility that allows firm’s to disguise their true financial position. This is not to say that there should not be more federal oversight over the accounting standards setting process and that the SEC should not investigate all suspected violations of its financial reporting rules. However, all of these actions cannot solve the fundamental problem.

The only solution to the Enron problem is the old adage “let the buyer beware.” Shareholders must exercise their responsibilities as owners of the firm to demand complete disclosure of all relevant information. Large pension funds managers such as the California Public Employees’ Retirement System (CalPERS) have a history of shareholder activism. All share holders have the ability to discipline the behavior of firms whose management does not adequately disclose. Institutional and private investors must demand better information, and withhold their investment dollar until they get what is particularly surprising about the current lack of reliable financial information is that it exists despite rapidly declining costs of information disclosure. Rather than having to incur the large financial expense of printing and mailing annual reports or other documents disclosing financial information, all firms can post the relevant information, updated each day if needed, on their web-site at zero incremental cost.

When asked about why he didn’t invest in dot-com companies, Warren Buffett responded, “I have an old-fashioned belief that I should only expect to make money in things I understand. And when I say understand, I mean understand what the economics of the business are likely to look like 10 years from now.” If all investors followed Buffett’s advice, companies that failed to provide sufficient information for investors to understand their financial position would find it very difficult to raise money from the investing public.

More companies are likely to follow Enron’s downward trajectory because they did not fully disclose their financial health. Investors must demand complete financial disclosure using terms that clarify rather than cloud understanding of what the numbers mean. The costs to firms of disclosing information whenever it becomes available and the cost to investors of gathering and analyzing this information have never been lower. An investing public demanding continuous and complete financial reporting is the best way to minimize the risk of future disasters like the Enron’s bankruptcy.
Long before it declared bankruptcy, Enron was notorious among Wall Street analysts for its opaque accounting practices. Even the most sophisticated market watchers were unable to divine Enron's profit position from its financial statements. But the 1990s were boom times for the energy trading industry. Many countries re-structured their former state-owned monopoly electricity, oil and natural gas industries, and Enron was an active and vocal participant in all of these newly formed markets. Even in the competitive business of energy trading, Enron was known for its aggressive behavior. If there was a profitable trading strategy available because of a poorly designed regulatory rule, Enron was often the first market participant to formulate this strategy and profitably exploit it. Enron was also not shy in publicizing its many apparent profit-making actions in these markets. As the high-profile company in an industry undergoing explosive growth with financial statements approved by independent auditors showing revenue growth consistent with the growth of the industry, Enron looked like a very healthy company in spite of its indecipherable balance sheet. These subjective measures of success could explain why Wall Street believed that Enron was a profitable company long after it actually was.

In hindsight, however, there were many warning signs that all was not right at Enron long before its stock price began its rapid decline. I will first describe these warning signs and then discuss what lessons the investing public should learn from this debacle and what investors can do to avoid a similar situation in the future.

Accounting is Not an Exact Science

Harvey Pitt, chairman of the Securities and Exchange Commission (SEC) said, "There is no true number in accounting, and if there were, auditors would be the last people to find it." How a firm decides to depreciate its assets, book its accounts payable and accounts receivable, recognize investment expenditures, or realize capital gains and losses can dramatically

Frank A. Wolak received his Ph.D. and S.M. from Harvard University. He is a Professor of Economics at Stanford University, a SIEPR Senior Fellow and the Chairman of the Market Surveillance Committee of the California Independent System Operator for the state’s electricity supply industry. He is a visiting scholar at University of California Energy Institute and a Research Associate of the National Bureau of Economic Research (NBER).

Professor Wolak’s fields of specialization are industrial organization and econometric theory. His recent work studies methods for introducing competition into formerly regulated infrastructure industries—telecommunications, electricity, water delivery and postal delivery services—and on assessing the impacts of these competition policies on consumer and producer welfare.

The Stanford Institute for Economic Policy Research (SIEPR) conducts research on important economic policy issues facing the United States and other countries. SIEPR’s goal is to inform policy makers and to influence their decisions with long-term policy solutions.

With this goal in mind SIEPR policy briefs are meant to inform and summarize important research by SIEPR faculty. Selecting a different economic topic each month, SIEPR will bring you up-to-date information and analysis on the issues involved.

SIEPR Policy Briefs reflect the views of the author. SIEPR is a non-partisan institute and does not take a stand on any issue.

For additional copies, please see SIEPR website at: http://SIEPR.stanford.edu